Claims

SUBMIT

1. A method for introducing a tube (2; 52; 102) into a borehole (1) in the ground, comprising the actions of:

composing said tube (2; 52; 102) by connecting successive tube parts (8; 58) end-to-end in a connecting area, and

axially displacing at least a composed section of said tube (2; 52; 102) from said connecting area towards said borehole (1) and introducing at least a substantial portion of said tube or said composed section thereof (2; 52; 102) into said borehole (1),

characterized in that, said connecting area is located at least horizontally spaced away from the borehole (1), and that said axial displacement of said tube or said composed section thereof (2; 52; 102) from said connecting area to said borehole (1) proceeds along an at least partially curved path (69; 128, 129).

2. A method according to claim 1, wherein said connection of successive tube parts (8; 58) end-to-end into said tube (2; 52; 102) is completed before said tube (2; 52; 102) is brought in communication with said borehole (1).

3. A method according to claim 1 or 2, wherein said path along which said tube or said composed section thereof (102) is displaced includes at least one complete winding.

4. A method according to claim 3, wherein said path along which said tube or said composed section thereof (102) is displaced includes at least a spiral or helical portion.

5. A method according to any one of the preceding claims, wherein said tube parts are oriented at an angle to a topmost portion of said borehole (1) during said connection of said tube parts.

6. A method according to claim 5, wherein said tube parts are oriented substantially horizontally during said connection of said tube parts.

Sub A1

7. A method according to any one of the preceding claims, wherein said tube or said composed section thereof (2; 52; 102) is plastically bent to a curved shape where it enters a curved portion of said path.

8. A method according to claim 7, wherein plastically bent portions of said tube or said composed section thereof (2; 52; 102) are plastically straightened where it leaves said curved portion of said path.

9. A method according to claim 7 or 8, wherein maximum total deformation during said bending into said curved shape is less than 2%.

10. A method according to any one of the preceding claims, wherein portions of said tube or said composed section thereof (2; 52; 102) proceeding along said curved path are bent into at most one single curve.

11. A method according to claims 8 and 10, wherein said plastical straightening of said tube or said composed section thereof (2; 52; 102) when leaving said curved portion of said path occurs a single time at most for each portion of said tube or said composed section thereof (2; 52; 102).

12. A method according to any one of the preceding claims, wherein portions of said tube or said composed section thereof (8; 58) proceeding along a curved section (69; 128, 129) of said path are in an at least elastically deformed condition.

13. A method according to any one of the preceding claims, wherein each portion of said tube or said composed section thereof (2; 52; 102) is bent to a curved shape in exclusively one direction relative to that portion of said tube (2; 52; 102).

14. A method according to any one of the preceding claims, wherein the borehole (1) in the area of a well head (13; 63, 113) is held sealed against said tube or said composed section thereof (2; 52; 102), and wherein an overpressure prevails under the sealing (16).

SubA1

15. A method according to any one of the preceding claims, wherein said connecting of said the tube parts (8; 58) is carried out by welding.

16. A method according to claim 15, wherein the welding occurs in a screened space (12).

17. A method for retracting or removing a tube (2; 52; 102) from a borehole (1) in the ground, comprising the actions of:

retracting at least a substantial portion of said tube (2; 52; 102) from said borehole (1),

axially displacing said tube (2; 52; 102) from said borehole (1) towards a connecting area, and

disconnecting tube parts from said tube (2; 52; 102) in said connecting area,

characterized in that, said connecting area is located at least horizontally spaced away from the borehole (1), and that said axial displacement of said tube (2; 52; 102) from said borehole (1) to said connecting area proceeds along an at least partially curved path (69; 128, 129).

18. A method for retracting or removing a tube (2; 52) from a borehole (1) in the ground, comprising the actions of:

retracting at least a substantial portion of said tube (2; 52) from said borehole (1), and

axially displacing said tube (2; 52) away from said borehole (1),

characterized in that, said axial displacement of said tube (2; 52) away from said borehole (1) proceeds along an at least partially curved path (69) to a storage area, and in that said tube or a substantial portion thereof (2; 52) is stored in said storage area in a configuration in which maximal deformation relative to an essentially rectilinear configuration is less than 2%.

19. An installation for composing a tube (2; 52; 102) and introducing same via a well head (13; 63, 113) into a borehole (1) in the ground, comprising:

Subst)

a connection structure (6; 56) for composing the tube (2; 52; 102) by connecting successive tube parts (8; 58) end-to-end in a connecting area, and

a transport structure (3, 4, 5; 53, 67, 68; 117, 124, 125, 130) for axially displacing said tube or a composed section thereof (2; 52; 102) from the connection structure (6; 56) towards the well head (13; 63, 113), and for introducing at least a substantial portion of said tube or said composed section thereof (2; 52; 102) into said well head (13; 63, 113),

characterized in that said connecting area is located at least horizontally spaced away from said well head (13; 63, 113), and that said transport structure (3, 4, 5; 53, 67, 68; 117, 124, 125, 130) is arranged for axially displacing said tube or said composed section thereof (2; 52; 102) along an at least partially curved path (69; 128, 129).

20. An installation according to claim 19, wherein said connection structure (6; 56) is provided with a passage (15) for receiving a tube part (8; 58) to be connected, said passage (15) being located out of alignment with the well head (13; 63, 113), and said passage (15) being oriented at an angle with respect to the well head (13; 63, 113).

21. An installation according to claim 20, wherein said passage (15) is oriented horizontally.

22. An installation according to any one of claims 19-21, wherein said transport structure comprises: a bending machine (67; 117) for plastically bending tube material to a curved form, having an inlet for leading in tube material to be bent, in line with a portion of said path section connected to and downstream of said connection structure (56).

23. An installation according to claim 22, wherein said transport structure further comprises a bending-back machine (68; 130) for plastically straightening tube material from a curved form to an at least straighter form, said bending-back machine (68; 130) having an outlet for

leading out tube material, located in line with the well head (13; 63, 113).

24. An installation according to claim 22, wherein said bending machine (117) is reciprocable between a run-in position with an inlet for leading in tube material to be bent in line with a supply path section connected to and downstream of the connection structure, and a run-out position (117') along a vertical portion of said path substantially parallel to an main passage of said well head (113).

25. An installation according to any one of claims 19-24, wherein said at least partially curved path (69; 128) defined by the transport structure (53, 67, 68; 117, 124, 125, 130) has a smallest radius, and wherein said bending machine (67; 117) for plastically deforming tube material to a curved form is arranged for applying a plastic deformation which results in a radius in unloaded condition that is greater than said smallest radius of said at partially curved path (69; 128).

26. An installation according to any one of claims 19-25, wherein said transport structure (117, 124, 125, 130) is arranged for keeping said tube (102) in an at least spirally or helically curved configuration (128).

27. An installation according to any one of claims 19-26, further comprising a sealing (16) for sealing the well head (13; 63, 113) against said tube or a composed section thereof (2; 52; 102) for preventing fluid from flowing out of the borehole (1).

28. An installation according to any one of claims 19-27, wherein said connection structure (6; 56) is in the form of a welding device.

29. An installation according to claim 28, wherein the welding device comprises a screening (14) surrounding the welding device.